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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,941	08/09/2001	Tamotsu Sugimoto	040679-1327	1997

22428 7590 07/15/2003

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EXAMINER

CLARKE, SARA SACHIE

ART UNIT PAPER NUMBER

3743

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DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,941

Applicant(s)

SUGIMOTO ET AL.

Examiner

Sara Clarke

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12 and 26 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 13-25 and 27-29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The disclosure is objected to because of the following informalities: On page 24, line 8, "parallelepiped" is spelled wrong. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuzawa et al. (JP 57-210207).

Fukuzawa et al. discloses the invention as claimed including a passage 4, a catalyst 6, a heat exchanger 8, and a mixer 1. With regard to the combustion of hydrogen (claim 1), limiting the combustion to "mild combustion" (claims 2, 3, 7, and 8), the flow rate control (claims 4 and 5), these limitations are considered statements of intended use and do not structurally differentiate the claimed apparatus from the prior art apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzawa et al. (JP 57-210207) in view of Rostrup-Nielsen et al. (WO 99/13269).

Fukuzawa et al. discloses the invention substantially as claimed with the exception of first and second electrodes, a corrugated sheet, and a catalyst supported on the sheet.

Rostrup-Nielsen et al. discloses first and second electrodes, a corrugated sheet, and a catalyst supported on the sheet. See Fig. 1a. The use of the corrugated sheet to support the catalyst provides for turbulence. See page 10. Separation of the two electrodes minimizes shorting across the electrodes. See page 11.

Both Fukuzawa et al. and Rostrup-Nielsen et al. are analogous prior art since they are concerned with catalytic combustion of a gas.

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide the combustor of Fukuzawa et al. with first and second electrodes, a corrugated sheet, and a catalyst supported on the corrugated sheet as taught by Rostrup-Nielsen et al. to provide for turbulence and to minimize shorting across the electrodes.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzawa et al. (JP 57-210207) in view of Coy (US 3580225).

Fukuzawa et al. discloses the invention substantially as claimed with the

exception of a heat exchanger having pipes extending between two walls.

Coy is analogous prior art since it discloses a heat exchanger for heating water from combustion gasses. Coy teaches the use of a heat exchanger 25 having pipes 28 extending between two walls 29,30 for the purpose of heating water between the pipes.

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide the device of Fukuzawa et al. with the type of heat exchanger taught by Coy to heat water with combustion gasses.

Allowable Subject Matter

Claims 10, 11, 13-25, and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al. (US 5938427) and Krill et al. (US 4459126) disclose various catalytic combustion apparatuses.

Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Sara Clarke whose telephone number is (703) 308-1388. The examiner can normally be reached Thursday and Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (703) 308-0101. The fax phone numbers for the organization where this application is assigned are (703) 872-9302 for Before Final communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0861.


Sara Clarke
Primary Examiner
Art Unit 3743

July 13, 2003